

Date: Tuesday, 4/29/2008 10:16:42 AM
 User: David Duval

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: TUBE ASSEMBLY
Job Number	: 38871		
Estimate Number	: 13287		
P.O. Number	:	Part Number	: D3697041
This Issue	: 4/29/2008 S.O. No. :	Drawing Number	: D3697 PRELIM
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 11	Drawing Revision	: PRELIM
Previous Run	:	Material	:
Written By	: <u>AD 08/04/30</u>	Due Date	: 5/6/2008 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	: Est Rev:A 08-04-25 new issue DD verified by:EC		

Additional Product

FOR ENGINEERING USE ONLY

PROTOTYPE

Job Number:



PRELIMINARY ISSUE

Seq. #: Machine Or Operation: Description :

1.0 M6061T6T0375W049 6061-T6 Tube .375 x.049W



PJO
 Last Page

Comment: Qty.: 6.25 f(s)/Unit Total: 6.25 f(s)
 6061T6 aluminium tube OD 0.375" X 0.049" wall
 (M6061T6T0.375W0.049)
 Batch: M101448

2.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1- cut at 6.00" as per dwg D36972-bend and form as per dwg D3697 using DT 9003

3-drill holes as per dwg D3697 N/A

4-deburr N/A

3.0 QC5 INSPECT WORK TO CURRENT STEP



ENGINEERING
 APPROVAL



Comment: INSPECT WORK TO CURRENT STEP

4.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

Date: Tuesday, 4/29/2008 10:16:42 AM
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Process Sheet

30 min

09/05/2008

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

S.227 08.16

Job Number: 38871

Part Number: D3697041

#1 317.8 F

Job Number:



#2 03697041 F

#3 038871 F

#4 038871 F

Seq. #:	Machine Or Operation:	Description :
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5.0	D37971	Ground Plate
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Ground Plate

batch: B38859

08/05/06

6.0	D36973	Support Plate, LH
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Support Plate, LH

batch: B38860

08/05/06

7.0	D36974	Support Plate, RH
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Support Plate, RH

batch: B38862

08/05/06

8.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-weld D3697-3/-4 and D3797-1 on tube D3697-1 as per dwg D3697

08.05.07

9.0	QC9	VISUAL WELDING INSPECTION
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Comment: VISUAL WELDING INSPECTION

08/05/07

10.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

08.05.07

11.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

1- Chemical Conversion Coat as per QSI 005 4.1

08-05-08

08.05.08

2- Mask Hatched Areas (5 pls) on both sides
of ground plate only. Before powder coating

Batch: m100700

08/05/09

Seg. 8.0

2- drill holes in (5pl5) as
per dwg Δ 3697

Δ 08/05/07

adon 1/1

2008.08

600 dy

11
14

Date: Tuesday, 4/29/2008 10:16:42 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 38871

Part Number: D3697041

Job Number:



Seq. #:

Machine Or Operation:

Description:

12.0

POWDER COATING

POWDER COATING



M 100700



Comment: POWDER COATING

Powder Coat Black Sandtex (Ref: 4.3.5.7) as per QSI 005 4.3

START TIME:

2:45 pm

OVEN TEMPERATURE:

320°F

FINISH TIME:

3:15 pm

910 08-25-06

(K1)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

508151670

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

give to David Duval

Location:

15.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08.05.13 PROTOTYPE

Job Completion



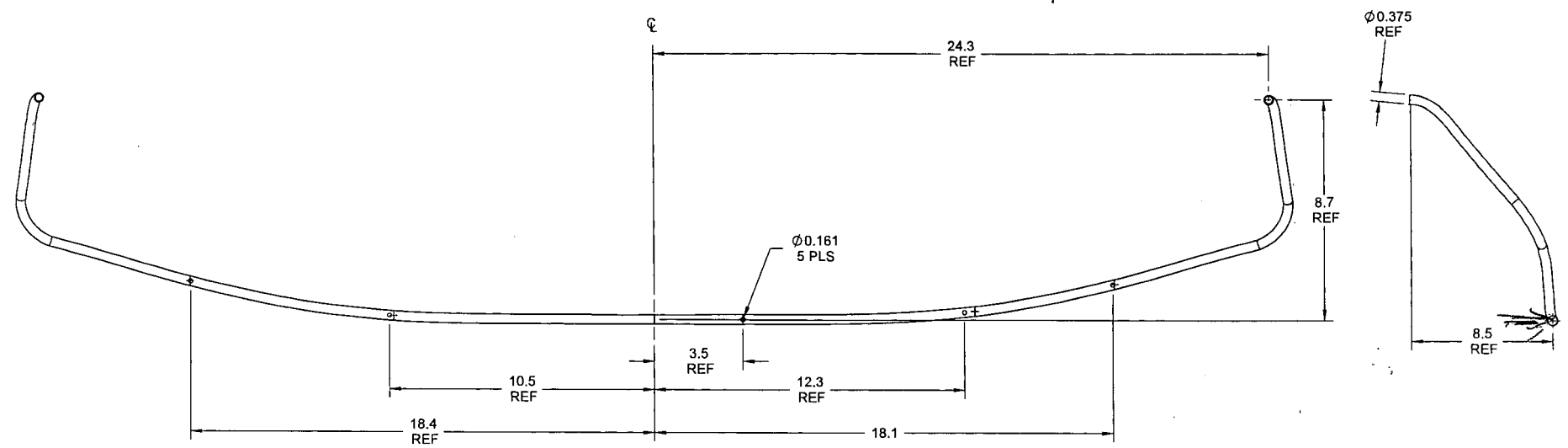
Change to
w/p #00235

U 28.2509

32 1/2" 8" 8" 16" 3/8"

PRELIMINARY ISSUE

MP 08.04.25



D3697-1 TUBING

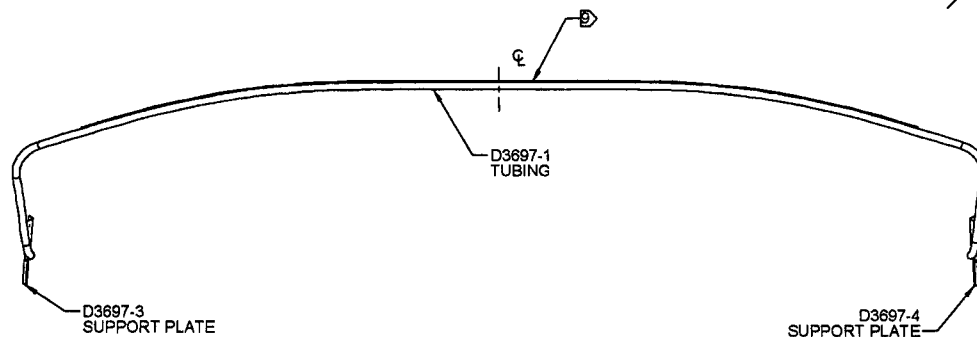
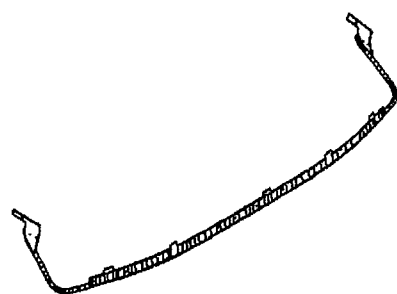
NOTES:

- 1) MATERIAL: 6061-T6 OR 6061-T62 (WV-T-700/6) ALUMINUM TUBING Ø0.375 x 0.035 WALL (REF. DART SPEC. M6061T6T0.375W0.035)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.24 lb
- 8) FABRICATE USING TEMPLATE DT _____
- 9) DRILL Ø0.161 HOLES ON TUBE CENTERLINE USING DT _____ DRILL JIG

Ø0.375 x 0.049" wall

MP 08.04.25

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3697	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		TUBE ASSEMBLY	1:4
DATE	08.03.31	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



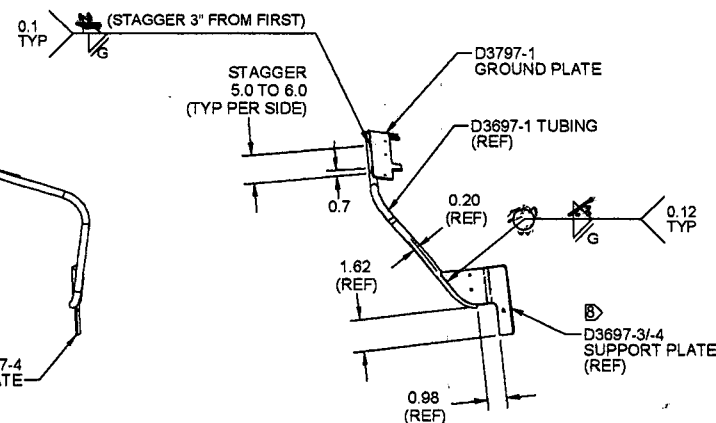
D3697-041 TUBE ASSEMBLY

NOTES:

- 1) WELD PER QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT BLACK (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.55 lbs
- 8) LOCATE D3697-3/-4 ON D3697-1 USING DT _____ WELDING JIG
- 9) CENTER D3797-1 GROUND PLATE IN TO D3697-1 TUBING

PART LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3697-041	TUBE ASSEMBLY
1	D3697-1	TUBING
1	D3697-3	SUPPORT PLATE
1	D3697-4	SUPPORT PLATE
1	D3797-1	GROUND PLATE



A	NEW ISSUE	RF	08.04.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3697	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		TUBE ASSEMBLY	1:6
DATE	08.04.30	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCIALIZED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

MP
08-21-30

PROTOTYPE REQUEST FORM

DART Aerospace Ltd.

Product #: D412-776-011

Job #: 00235

Date: 25-Apr-08

Product Name: B412 Glareshield

Requested By: MP for RF

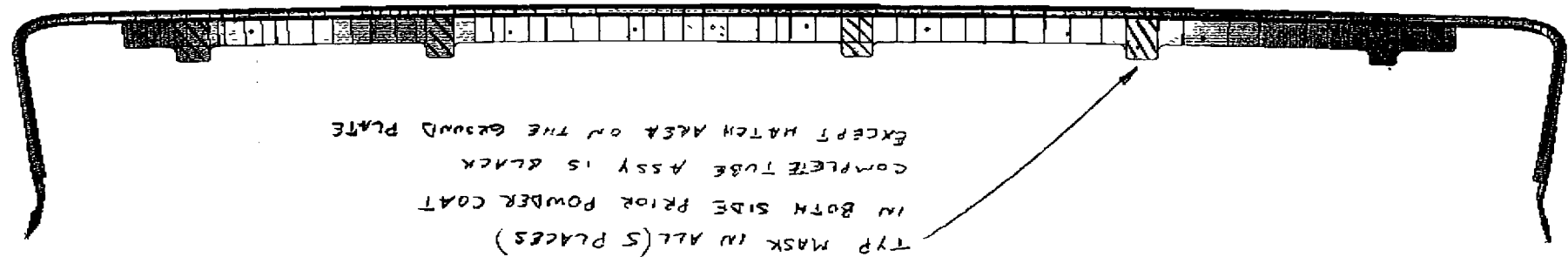
Design Manager Approval: 

Quantity	Part Number	Description	Drawing Date	Material Cert Req'd?	Due Date	Comments	Date Completed
1	D3697-1	Tube	31/03/2008	y	09-May-08		
1	D3797-1	Ground Plate	31/03/2008	y	09-May-08		
1	D3697-3	Support Plate LH	31/03/2008	y	09-May-08		
1	D3697-4	Support Plate RH	31/03/2008	y	09-May-08		
1	D3698-1	Support Angle	31/03/2008	y	09-May-08		
1	D3690-1	Glareshield	31/03/2008	y	09-May-08		
1	D3697-041	Tube assy	31/03/2008	y	09-May-08		
1	D3699-041	Support Assy	31/03/2008	y	09-May-08		
1	D3699-042	Support Assy	31/03/2008	y	09-May-08		
1	D3690-041	Glareshield Assy	31/03/2008	y	09-May-08		



Roberto 08/05/07

I WILL DO ALL THE CHANGE ON ALL THE DWGS
AT ONCE, WENT I RECEIVE YOU INPUT,



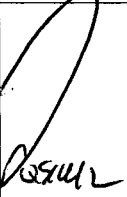

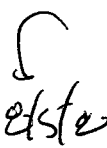
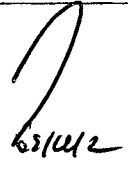

TYP MASK IN ALL (5 PLACES)
IN BOTH SIDE PRIOR POWDER COAT
COMPLETE TUBE ASSY IS BLACK
EXCEPT MATCH AREA ON THE GROUND PLATE

ATTN: DAVID DUVAL
Fax: (613) 632-1053

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/05/08	#20	Welds in wrong orientation.		Scrap and destroy and replace qty (6) 36 10448	 08/05/08	 8/5/08	 8/5/08	 8/5/08

NOTE: Date & initial all entries

Receiving Report

Date: June 28/06
Supplier: Mormon Keystone

Batch No: 2101448
Dart P/O: 1455

Packing Slip:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Invoice:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Receipt:	Cash <input type="checkbox"/>	Cr <input type="checkbox"/>

Release Note Attached: Yes ☒ No ☐ N/A ☐
Waybill Attached: Yes ☒ No ☐ N/A ☐
Shipment Complete: Yes ☒ No ☐ N/A ☐
QC6 Inspection *MS* *01/01/80* N/A ☐
Work Order _____ N/A ☒

Discrepancies

Discrepancies						
Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin:

Date 01/30/06
Received/Costing RCB1919
Initial CS

Location _____

APPLICABLE REQUIREMENTS:

ASTM-B241-02-STENCILED
ASTM-B221-02
ASME-SR241 1998 SECT II
AMS-QQ-A-200/8 TYPE 1
ASTM-B345-02
UNS#96061

Kaiser Aluminum & Chemical Corp. ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgment form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file, subject to examination.

Q. C. REVIEWED

Frank E. Watson
Quality Assurance Manager

AT 3.5.375 733

KAISER CHANDLER

CHANDLER PLANT
BOX 5011 6573 W WILLIS ROAD
CHANDLER AZ 85226
PH: 520.796.1097
FAX: 520.796.0996
SALES: 800.628.8274

CERTIFICATION and PHYSICAL TEST RESULTS

QP 0284

These results are for **MARMON/KEYSTONE CORP**
Mill Number **175-43923.** Purchase Order No **25-19569-001**
Alloy **6061** Temper..... **T6**
Part No, Item No, Commodity No or Inventory No
Size Description: **.375 IN OD X .049 IN WALL**
Specification(s): **WW-T-700/6F ASTM B210-04 AMS 4082N**
Additional procedures as called for on Specification:
MADE IN U.S.A. WE TAKE EXCEPTION TO PARA. 5.2.1. Per AMS 4082N, WAS NOT OILED.

Limits	Chemical Composition			Per Aluminum Standards and Data 2003								
MIN	0.40	*	0.15	—	0.8	0.04	—	—	—	—	Each 0.05	Remainder
MAX	0.8	0.7	0.40	0.15	1.2	0.35	—	0.25	0.15	—	Total 0.15	
Actuals	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others	Al	
	0.63	0.22	0.25	0.03	0.95	0.05		0.02	0.02			
	0.58	0.22	0.20	0.02	0.91	0.06		0.02	0.02			
	0.60	0.19	0.22	0.02	0.92	0.06		0.01	0.02			
											Each 0.05	Remainder
											Total 0.15	

* For WW-T-700/4 specification, maximum Si plus Fe is .45%.

** 1100 Alloy Max Si + Fe is 0.95 %

Mechanical Properties		Properties	
Lot #	Temp	Yield PSI	Ultimate PSI Elongation %
43921 AITB		43,000	46,000 13
43921 BITB		42,600	45,800 14

Domestic Melt Source Made in USA

We hereby certify that the material covered by this report has been inspected in accordance with, and has been found to meet, the applicable requirements described herein, including any specifications forming a part of the description; and that samples representative of the material met the composition limits and had the mechanical properties as indicated.

Date 09/12/2005

J. A. Merzdek
Tech. Mgr. Tube

CertAct

Printed

Q.C. Reviewed
MAR 15 2006